



Distilling Quarterly

The Magazine for Hobby Distillers

January/March 2007
Volume 1, Number 1

Going Electric
Tips on wiring your still

Home Distilling
A primer on the hobby

The Whiskey Trail
An inside look at the big boys

A message from the Editor

Welcome to the first issue of Distilling Quarterly magazine.

Distilling Quarterly is a magazine that is designed to deliver information to the hobby distiller in a format that is easy to use, understand and pass along to friends and fellow hobbyists. Distilling Quarterly is currently a free publication that is provided only in electronic format.

Our goals are to help keep you, the home distiller, informed on legal issues affecting the hobby as well as bring you news, new techniques and recipes.

Distilling Quarterly was started by a group of volunteers who found that there are no publications available to the hobby distiller. We saw that while there are several discussion boards for home distillers on the internet, there is no single source for the ever expanding hobby distiller community. Seeing this, we set out to fill the void with a magazine.

We are currently looking for people to assist us in developing the magazine. We are looking for artists, for writers, for sales people and for anyone with talent, skills and an interest in hobby distilling.

If you would like to be involved with the birth of a magazine that targets the hobby, we encourage you to write to us and give us an idea of how you would like to help out.

With that said, we hope you enjoy our first edition of Distilling Quarterly.

The Drunk Monkey

Executive Editor,
Distilling Quarterly

Distilling Quarterly

The Magazine for Hobby Distillers

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On the cover: A mash tank at Four Roses Distillery.

Photo Credits: All photos by Elricko.

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Submission Policy: Distilling Quarterly Magazine invites all manner of art, fiction and non-fiction as long as it strictly pertains to drinking and distilling. Submissions will become the property of Distilling Quarterly Magazine for first time publishing rights, the revert back to the author. All submissions are subject to editing for space and content.

For writers guidelines or to submit a material, E-mail us at: distillmag@gmail.com

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Contents

4 **Going Electric**

Elricko'shot tip on how to heat your boiler with electric water heater elements

6 **Essential Elements of Home Distillation**

Chili Rainbow's primer on the exciting hobby of making hooch

7 **Tracing the Bourbon Trail**

Elricko hits the road in search of Kentucky's finest whiskeys



Going Electric

Make the switch from gas to electric with simple, cheap modification and save money in the long run

By Elricko

IN the old moonshine and bootlegging days most back-wood stills were heated using either wood or coal. These days the hobby distiller generally uses propane or an electric coil to heat their wash. Many people who are hobby distillers started out as homebrewers. They have the equipment and background for using propane and think “why reinvent the wheel?” One big advantage to using propane is, depending on the B.T.U. rating of the burner, one can get up to distillation temperature very quickly.

If you are new to the art of distillation or even if you have been at it for many years you may want to consider converting from propane to electric. The advantages are great. Electric heat is more consistent, it is cheaper to run than propane, you can actually use it inside, there is no noise, you never have to worry about running out of fuel and there is no open flame. That last point is quite important when you are producing a liquid as flammable as ethanol.

I have a friend who was using propane and developed a leak in his column. He ended up with a blue flame running from the top of his column, down his keg, across his floor, and toward his garage wall in a matter of seconds. Luckily he was watching his still and had a fire extinguisher handy. He has now converted to electric.

This article presumes you are converting a keg, either $\frac{1}{4}$ barrel (pony keg), or $\frac{1}{2}$ barrel (standard sized keg). The process is the same for either, but, the $\frac{1}{2}$ barrel keg works better if two heating coils are installed. The first coil should be placed close to the bottom of the keg without actually touching the bottom. In the case of the $\frac{1}{2}$ barrel a second coil is placed at a right angle just below the half way mark. It is important that the second coil is placed so that it will be fully immersed when using. This upper coil is plugged directly into a wall socket and used solely for the pur-



pose of reaching the necessary start up temperature quickly. The bottom coil is connected to a 1,500-watt dimmer switch for heat adjustments during operation. A Lutron 1,500-watt dimmer switch can usually be found on the internet auction site eBay for around \$25.

If you are using a milk can, the double buckets welded together, or some other form of still make sure you measure to see if the coil length will fit before drilling a hole. To convert a keg, a hole must be drilled and a stainless steel half coupling (bushing) must be welded into the keg. This can be done at any welding shop and should run about \$25 plus the cost of the half coupling. If you are a welder, half couplings can be ordered off the internet at McMaster-Carr (www.mcmaster.com) and run about \$5 each.

Next, the 120-volt, 1,500-watt hot-water coils can be purchased from Home Depot or Lowes for about \$8. I actually use a 120-volt, 2,000-watt coil for the top coil in my ½ barrel. It has a faster heat up although a 1,500 watt works just as well.

If you are lucky enough to have a 240-volt receptacle handy, you can go up to 5,000-watt for the top coil. They easily screw into the half coupling and tighten up with a pair of vice grips, or a special socket wrench which can be purchased at Home Depot for an additional \$6. The socket wrench comes in handy if, like me, you pull your coil out and clean it between each session. I like to spray the rubber washer with WD-40® just to form a better seal.

Wiring the coil is as simple as changing a plug on a lamp. Just screw the white and black wires in. Make sure that the wire you chose is of the appropriate gauge (14 or less) to handle the wattage. Unfortunately the coil doesn't provide a screw for the ground wire. However it would be an easy thing to put a screw in the cowlings at the bottom of the keg and attach the ground wire

To cover the exposed wires a replacement plug can be bought at the hardware store for about \$3. Gut it and throw away everything but the cowlings. Using the electric keg is as easy as plugging it in. Attach the bottom coil to the dimmer switch and plug the upper coil into a separate outlet. Once the temperature reaches Celsius unplug the top coil and adjust the dimmer to the proper drip rate.



Essential Elements of Home Distillation.

By *Chilirainbow*

Whiskey. Moonshine. White lightning. These words conjure up thoughts of American history, such as prohibition and NASCAR. Now, you want to make some “History,” of your own. You searched for web sites on the subject. You read forums extensively. But, you’re still a little confused on how to get started. This article will describe the equipment that you need to make your own “History.”

The most important piece of equipment needed is a distillation pot, or “Still.” Stills come in three types, the pot still, the reflux still, and the fractionating still. The pot still is the oldest type. It is simply a boiler with a column that carries the alcohol vapors directly to a condenser. For simplicity, the pot still will be focus of this article.

The boiler, usually made of copper or stainless steel, is used to heat a fermented mash. There are a number of containers that can be used as a boiler. Beer kegs are a popular choice, as they are made of stainless steel, can be used with a variety of heat sources, and hold a generous amount of mash. They are also inexpensive. Stainless steel or copper stock pots, with some modifications, make good boilers as well. Copper boilers, while traditional, are somewhat expensive.

The next part of the still is the column. The column is a copper or stainless steel tube that connects to the

top of the boiler. The longer the column is, the more pure your alcohol will be. This is due to a phenomenon called internal reflux. The higher the column, the cooler the vapor will be at the top. Heavier vapors will cool before reaching the top of the column, condense, and fall back down the column. As these heavier components fall, they strip other heavy components out of the rising vapor. This raises the alcohol content collected from the condenser. Even though the alcohol is stronger, flavor is lost. So, it is best to keep the column around 18” to 24” in height. This way, the flavor of the whiskey is preserved. If a neutral spirit (Vodka,) is desired, a column designed to produce more reflux is required.

The final component to the pot still is the condenser. A condenser is nothing more than a cooler. The alcohol vapor passes through a tube or series of tubes that are surrounded by water. A condenser can be a straight tube fitted inside a larger tube. Water is circulated through the larger tube as it absorbs heat from the vapor in the smaller tube. Another design is copper tubing wound into a coil, and submerged in a bucket of cool water. The end of the tubing is protruding out toward the bottom of the bucket. This is where the condensed alcohol is collected.

Home distilling can be an addictive and rewarding hobby. The equipment is simple, and inexpensive. The ingredients are readily available. And the resulting product is very tasty. So, Fire it up, let it drip, and enjoy your own personal “History.”

Interested in writing for Distilling Quarterly?

Drop us a line at distillmag@gmail.com
and tell us about yourself.



Outside the Four Roses Distillery in Lawrenceburg, Kentucky.

Tracing the Bourbon Trail

By Elricko

Bourbon. Corn, Rye, Barley, and sometimes Wheat. Distilled to no more than 160 proof (80%) and stored in new charred white oak barrels for at least two years. The one true American Whisky. So simple, but so delicious. To be true Bourbon, according to the folks in Kentucky, it must be made in Kentucky and pretty much, it is. Not only is almost all Bourbon made in Kentucky, its biggest producers are located in a small geographical region known as the Bourbon Trail.

The Bourbon Trail follows the Blue Grass Highway (BGH) which stretches from the thoroughbred bluegrass capitol of the world Lexington, to the home of the Kentucky Derby Louisville. This area being the birthplace of Bourbon, distilling families go back to the 1700's and their decedents still ply their trade today. Also in this area you will be able to tour Boonesborough the settlement founded by Daniel Boone complete with a reconstructed fort near the original location with re-enactors. The area is also well known as the actual birthplace and childhood home of Abraham Lincoln. The log cabin is still intact.

Meeting in historic Huntington West Virginia our troupe

of four Bourbon lovers and hobby shiners got an early start west down I-64. Huntington WV is a beautiful old city located at the junction of West Virginia, Ohio, and Kentucky. Today it's most noted for being the home of Marshall University the college that produced Chad Pennington, Byron Leftwich, Randy Moss. But before all that it was the jumping off place for trail blazing pioneers such as Daniel Boone and George Rodgers Clark to enter Shawnee territory known as the "Kaintuck". The trip between Huntington and Lexington is a gorgeous stretch of highway surrounded by tree covered mountains occasionally broken up small villages such as Owingsville and Grayson. It was a beautiful day with the millions of deciduous trees showing their vibrant fall colors.

Our first destination was Bardstown Ky. Besides being home to the Kentucky Bourbon Heritage Center, the Oscar Getz Museum of Whiskey History, and Haven Hills Distillery, it is also the site where the actual house Stephen Foster memorialized in his song "My Old Kentucky Home" is located and available for tour. Bardstown also hosts the Annual Kentucky Bourbon Festival every September.

Arriving in Bardstown, our first stop was the Oscar Getz Museum of Whiskey History. During his lifetime Oscar Getz not only owned Barton Distillery, but was an



A glimpse at the equipment used by Heaven Hill Distillery.

avid collector of every thing whiskey related. Upon his death his wife donated his collection to the city of Bardstown who moved the display to Spalding Hall where it is available for tour. There is no fee to enter the museum and we were greeted and by Jean who gave us a guided tour pointing out some of the more interesting items including an original document signed by John Quincy Adams, hand written bottle labels signed by Jim Beam, and explaining the workings of the many antique stills on display. The museum displays rare artifacts and documents concerning the American whiskey industry dating from pre-Colonial days to post-Prohibition years. The museum includes exhibits on President Washington, Abraham Lincoln, authentic moonshine stills, antique bottles and jugs, medicinal whiskey bottles, unique advertising art, novelty whiskey containers, and much more. The building also houses artifacts from the history of Bardstown spanning back over 200 years including the Indian artifacts, Stephen Foster memorabilia, the confederate flag which flew over the town during the civil war, Kentucky long rifles, and even a hat worn by Jessie James that blew off as he was fleeing the town. If you choose to visit the Oscar Getz Museum expect to spend a good hour and a half just to scratch the surface.

The next stop on our journey led us to the Bourbon Heritage Center owned and operated by Heaven Hill Distilling. During an electrical storm on November 7, 1996 one of Heaven Hills seven story bourbon warehouses

was struck by lightning igniting a conflagration which consumed seven warehouses and most of the distillery. Today their distilling operation is done at the Bernheim Distillery in Louisville and the storage, mixing, and bottling operations are located at the Bardstown location. Heaven Hills is the largest family owned producer and marketer of distilled spirits in the country. Heaven Hill's portfolio includes both domestically produced products, such as Evan Williams Bourbon and Christian Brothers Brandy, as well as a line of imported brands from around the world, such as Hpnotiq Liqueur and Isle of Jura Single Malt Scotch. Overall they bottle 112 different brands of alcoholic beverages.

The Heritage Center itself is basically a visitor center which houses a collection of memorabilia and a place to gather for the tour. Our tour guide, Billy Joe, explained that all of Heaven Hills bourbons consist of 78% corn, 11% rye, and 11% barley. The differences in taste have to do with the time it spends in the barrel and the location in the warehouse. I asked him which was his best seller and why and told me that the Even Williams black label was their best seller and it was because of the price. Although there is no distillery at the Bardstown location there is a large model of the distillation process for the visitors to look at.

Another inimitable display is a view of the inside of barrels as they age. For example a barrel that has been in the warehouse for seven years has lost about 32% to evaporation whereas a barrel sitting in the warehouse twelve years has lost 47% of its volume. The unique thing about this display is that at the bottom of each barrel on display you push a button and you can smell the difference between the contents of each barrel.

I have to say right now that I was a bit disappointed in the tour. That's not to say that Billy Joe didn't give a good tour and answered every ones questions, it's just that the entire tour consisted of a trip through a warehouse. That's it. They have one of the largest mixing and bottling operations in the business which is located right next door to the Heritage Center but the tour

doesn't go there. At the end of the warehouse tour the group was invited into a tasting room where Billy Joe demonstrated the proper techniques for tasting Bourbon. We were treated to a ¼ ounce of 12 year old Elijah Craig single barrel and a ¼ ounce of Evan Williams's 10 year old small batch. Both were of course excellent bourbons and well presented. I preferred the Evan Williams because I felt it had a bit more of the caramel and vanilla flavors I like in Bourbon, but the majority of the group preferred the Elijah Craig. Just as a footnote, The Rev. Elijah Craig is the person who discovered that charring the inside of a barrel produces the red color and unique flavor found in bourbon. If you decide to visit the Heaven Hills facility expect to spend an hour and a half to two hours.

Heading back up the BGH to Lawrenceburg Ky we turned off on Highway 127 and followed the signs to the Four Roses Distillery.

In 1922 Four Roses bought the facility and produced bourbon "for medicinal purposes" throughout prohibition. Following prohibition Four Roses went on to become the best selling Bourbon in the United States until the facility was sold. In 1943 Seagram bought the company primarily to acquire the name. Seagram, a Canadian company preferred to focus on blended whiskies and introduced Four Roses blended whiskey to capitalize on the popularity of the original. Even though the original straight bourbon continued to be the top seller through the 1950's Seagram decided to discontinue selling it in the United States and sell only Seagram brand blended whiskey here. Four Roses Straight Bourbon was moved to the European and Asian markets where it became the top selling Bourbon.

In February 2002, the Kirin Brewery Company of Japan purchased the brand trademark, the production facilities, warehouse, and bottling facilities. Now back in the US, Four Roses is quickly earning a reputation as one of the finest bourbons in the world. The good news is that Four Roses Straight Bourbon is once again available in



In the barrel room at Heaven Hill Distillery.

the US. The bad news is that it can only be bought in Kentucky. Compared to other facilities, Four Roses is rather small. Hopefully it can be expanded and this excellent bourbon can again be available throughout the US.

Touring the facility is a delight. Our tour guide Terry was amiable and knowledgeable. After a short video about how bourbon is made, the visitor is shown a model of the still and it was explained how it works. Then we headed outside and made our way through the entire operation starting with where the delivery trucks came in with the corn, and how it is checked for quality. From there we went past the silos to the grinding room, the huge mash tuns, the yeast propagation area, the wash vats, and the distillation area.

To our delight Terry actually opened the "Tell Box", dipped in a glass and allowed us to smell and taste the "White Dog" (freshly distilled clear bourbon prior to going into a barrel). This is the first time I have ever toured a distillation facility that actually allowed you to taste the White Dog. Understanding that it was 140 proof and made with corn, rye and barley, I was surprised at how close in flavor it was to a regular sugar run done by most shiners. There was a small corn flavor but not the huge difference I expected.

Four Roses uses two different recipes in its bourbon.



A pot still at Four Roses Distillery.

Their primary yellow label bourbons are 75% Corn, 20% Rye, and 5% barley. Their black label has 60% corn, 35% barley, and 5% rye. In the tasting room we had the opportunity to taste 80 proof Yellow label, Small batch 90 Proof, and 100 proof Single Barrel. Although each of the Bourbon's were excellent, I found a new home in the regular 80 proof Yellow Label.

I now understand why this bourbon has become a best seller everywhere it has been introduced and I am very happy that I live in a bordering state of Kentucky so I can buy it whenever I like.

If you are planning to visit Four Roses, plan on spending a good two hours. Oh and take home a case.

By this time it was getting late so we hopped in the car and headed across town to the Wild Turkey Distillery. Unfortunately we got there five minutes after they closed. Not to be daunted, as we drove the three hours back home we began planning our next trip down the Bourbon Trail.

Overall, I found that bourbon making is more about the barrel than the distillate. Anyone who has brewed an all grain beer recipe is well versed in the art of making bourbon. The process is the same. Measure out your corn, barley, and rye. Mill the grains. Steep them at 150 degrees. One difference I found is that Bourbon

makers steep their grain for three to four hours instead of the usual 90 minutes for beer. Pull off the wort and sparge. Unlike beer, bourbon makers neither boil the wort nor add hops. Check your OG. Bourbon makers protect their yeast strain and consider it proprietary information. There are a number of whiskey turbo yeasts out there to meet your needs. However, their "beer" generally ends up at 8 percent alcohol. Knowing the percentages of each grain you plan to use, and your target alcohol percentage, any beer calculator should be able to give you an idea of how much of each grain you need plus what strain of yeast you will need to achieve the alcohol goal for whatever sized wash you plan to make.

Bourbon distillation technique uses a primary reflux still where the wash is dropped in about 2/3 of the way to the top of a still. As the wash flows down through holes in plates spaced throughout the still tower, steam is pumped up from the bottom. This results in a distillate of about 62% which is then pumped into a pot still. In the pot still it is further distilled, and condensed to 140 to 160 proof. It is then sent to the barrel filling room. The real magic happens in the barrel. As I stated before, the overall look and taste of the end product depends on where the barrel is located in the warehouse and how long it stays in the barrel.

When you visit these distilleries, there is a lot of history and lore. Decedents of the families that originally settled in this area of Kentucky are still working in the factories today. For example the master distiller for Heaven Hills is Parker Beam, a relative of Jim Beam. Fred Noe, son of the famous Booker Noe is the seventh generation grandson of Jim Beam and is currently an associate distiller at Jim Beam. James Russell, the master distiller at Wild Turkey has worked there for 40 years and was preceded by his Father and Grandfather. And on it goes. The equipment changes over the years, but the techniques and recipes remain the same. By the next issue of Distilling Quarterly Magazine I hope to have visited Jim Beam, Makers Mark, Buffalo Trace and get back to Wild Turkey when they are open.